

Task Order	MMS Issue Addressed	Monitoring Hypotheses	Methods	Key Monitoring Result or Parameter for Decision Making
005 – “Integrated Biomonitoring and Bioaccumulation of Contaminants in Biota of the cANIMIDA Study Area”	Will offshore oil development and production at Northstar and potential development at Liberty result in increased or chronic pollution from industrial sources of petroleum or metals?	<p>H1: Baseline concentrations of PAHs, metals, and exposure/response biomarkers in biota from the Northstar and Liberty areas of the Beaufort Sea are not a result of oil and gas industry activities.</p> <p>H2: Oil and gas industry activities in the Northstar and Liberty areas will not result in an increase in tissue concentrations of PAHs, metals and exposure/response biomarkers in biota from the Northstar and Liberty areas.</p> <p>H3: Concentrations of metals and PAH in tissues of indigenous benthic invertebrates and demersal fish from the Northstar and Liberty areas are not different from the regional background, which reflects concentrations of bioavailable contaminants from natural and anthropogenic sources.</p> <p>H4: Concentrations of metals and PAH in caged mussels and of PAH in SPMDs following 21-day deployments near Northstar oil and gas activities will not be different from the regional background and will reflect concentrations of regional contaminants in the water column of the Beaufort Sea.</p>	Summer sampling for fish and biota samples (including caged bivalve and SPMDs) from impacted and reference sites for analysis by one or more of the following methods/parameters: bile FAC, CYP1A, PAHs, SHCs, S/Ts and metals.	<p>Annual interpretative report with tabulated data of chemical and immunohistochemical analyses will be provided, with statistical tests of potential interannual significant differences.</p> <p>Contractor will alert MMS COTR of any important trends or changes.</p>